



醫院管理局

HOSPITAL
AUTHORITY

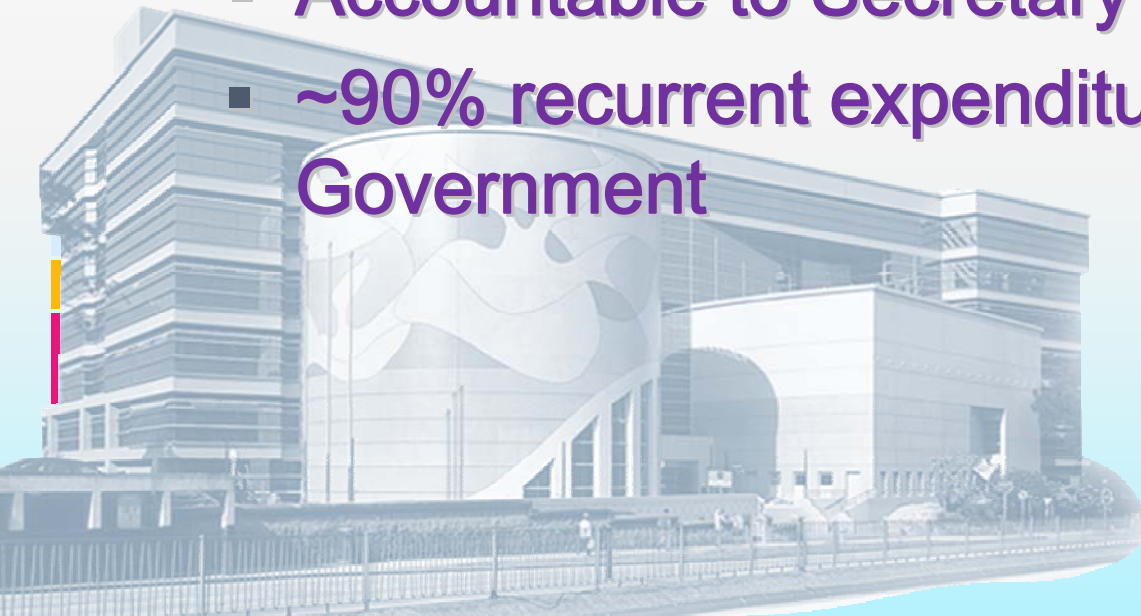
CASEMIX IN THE HOSPITAL AUTHORITY

- FIRST YEAR EXPERIENCE

Dr. Koon-hung Lee
Chief Manager , Finance Division
Hospital Authority Head Office

Hospital Authority

- Statutory body established under the Hospital Authority Ordinance
- Managed public hospitals since 1991
- Accountable to Secretary of Food and Health
- ~90% recurrent expenditure from Government



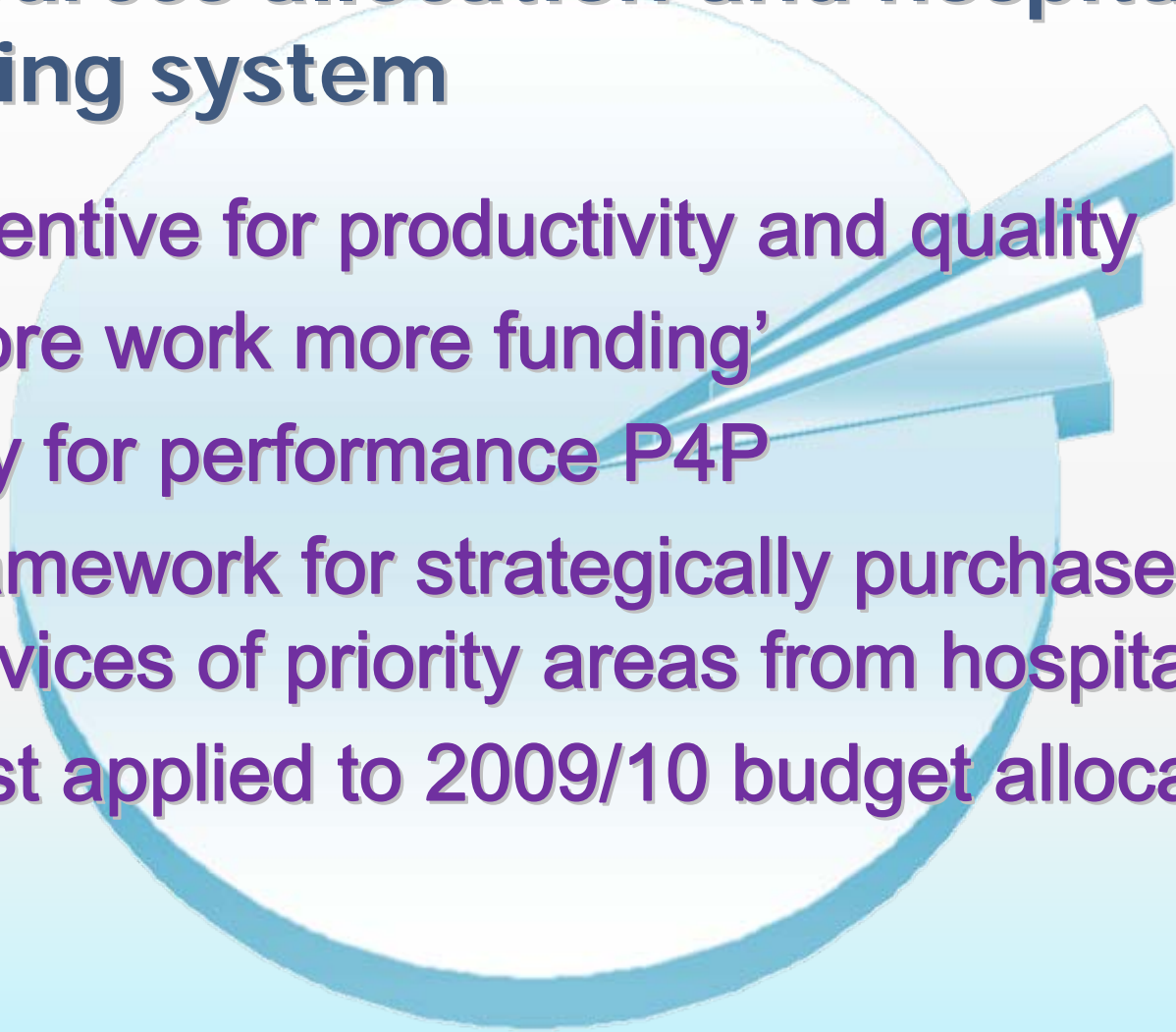

Hospital Authority

A light grey map of Hong Kong is shown in the background, divided into seven distinct geographical clusters. The clusters are: Hong Kong East, Hong Kong West, Kowloon East, Kowloon Central, Kowloon West, New Territories East, and New Territories West. The map is positioned behind the text, which is overlaid on the left and right sides.

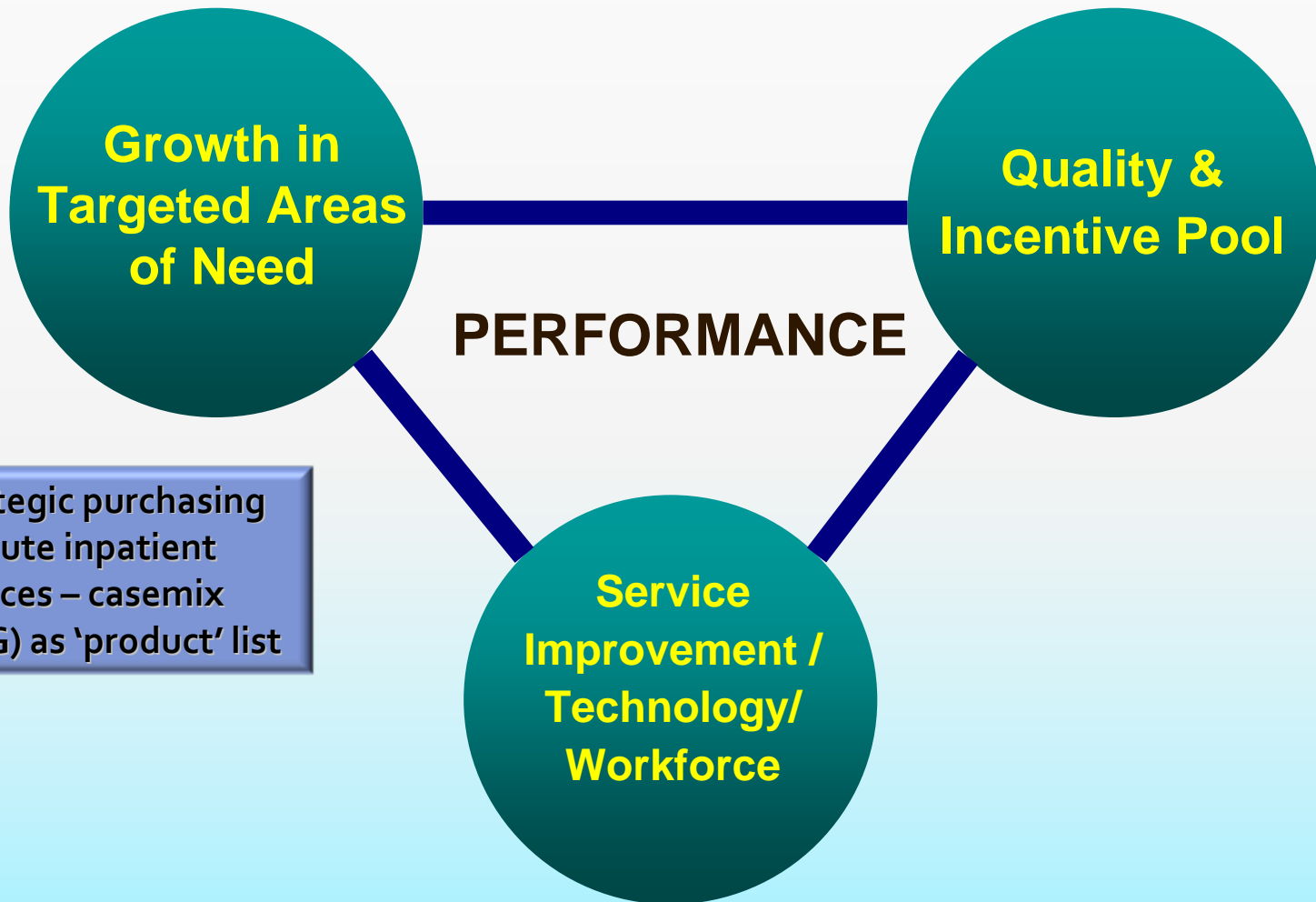
- Recurrent cost \$36 Bn
- Day patient and inpatient discharges 1.37 Mn
- Specialist outpatient clinic attendances 6.2 Mn
- Accident & emergency attendances 2.2 Mn
- General outpatient clinic attendances 4.6 Mn
- 7 geographical clusters
 - Hong Kong East
 - Hong Kong West
 - Kowloon East
 - Kowloon Central
 - Kowloon West
 - New Territories East
 - New Territories West
- 58,000+ staff
- 41 hospitals, 48 specialist outpatient clinics and 72 general outpatient clinics
- 27000+ beds



Resources allocation and hospital funding system

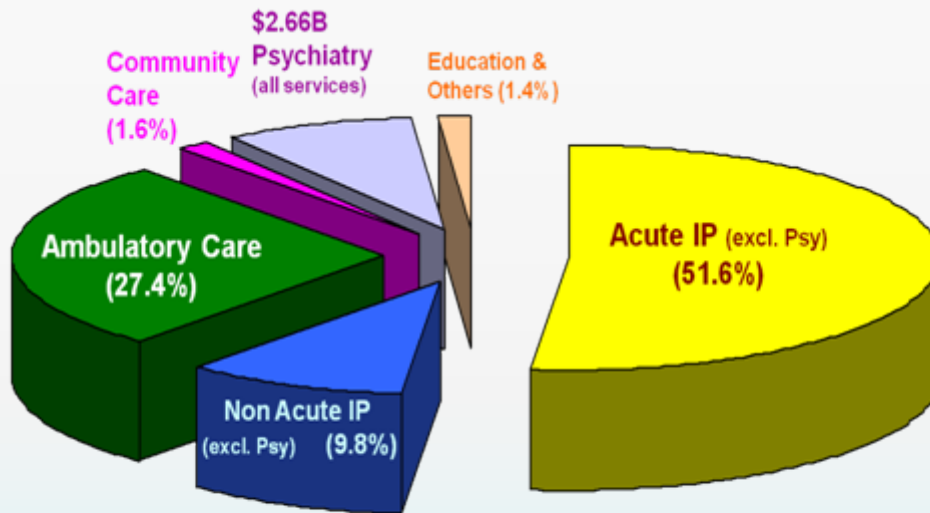
- Incentive for productivity and quality
 - 'More work more funding'
 - Pay for performance P4P
 - Framework for strategically purchase services of priority areas from hospitals
 - First applied to 2009/10 budget allocation
- 
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Pay for performance (P4P) = G + Q + STW



Strategic purchasing of acute inpatient services – casemix (DRG) as 'product' list


The Casemix model for HA



- **Acute inpatient service**
 - IR-DRG Grouper
 - Medical vs procedural
 - 3 severity subclass
 - Same-day/overnight as ambulatory cases



Challenges

- High level commitment and support
 - Clinician acceptance and buy-in
 - Technical readiness
 - Good quality clinical and cost data
 - Casemix expertise, skills and knowledge
 - Information system
- 


Overcoming the challenges

- Leadership
- Clinician engagement at the outset
 - Clinical casemix groups
 - Project governance structure
 - Forums to iron out issues
- Communications
 - Target at various staff levels





Overcoming the challenges

- **Clinical documentation – who do the coding?**
 - Employ hundreds of professional coders? Health informatics?
 - **Relative weights – costing infrastructure**
 - Itemized charges?
 - Clinical costing / Patient level costing systems?
 - HA Specialty Costing System
 - **Casemix expertise**
 - ‘sailing in an uncharted sea’?
 - Import from developed systems?
- 

Clinical documentation

The screenshot shows a software window titled "Select ICD-9-CM Code". It has a menu bar with "Category", "Classify", "Keyword", "<< Move", and "Close". The "Keyword" tab is active, showing "diag codes (14)". The search term "ca lung" is entered in the "Keyword:" field, and the "Code:" field is empty. A "Find" button is to the right. Below the search fields is a list of results under the heading "Lung Cancer". The list includes:


- Pneumonia
- Tuberculosis of Lung
- 197.0 Lung metastasis
- 197.0 Secondary Ca lung
- 197.0 Pulmonary Secondaries
- 235.7 Trachea, bronchus & lung carcinoid
- 648.90 Lung injury for maternal care
- 648.90 Ca bronchus/lung for maternal care
- 648.90 Lung dis d/t exter agent -mat care
- 648.90 Restrictive lung dis - mat care
- 771.7 Neonate candida lung
- V16.1 Fm hx-trach/bronchog mal
- V59.7 Cadaveric lung donor

At the bottom of the list, "Lung Cancer" is highlighted in yellow. Below the list is an "Add Dx/Px" button. At the very bottom, there is a note: "Please use [Shift] or [Ctrl] key for multiple selection in the list." and a "Feedback" button.

- Reporting diagnosis and procedures incorporated into HA Clinical Management System



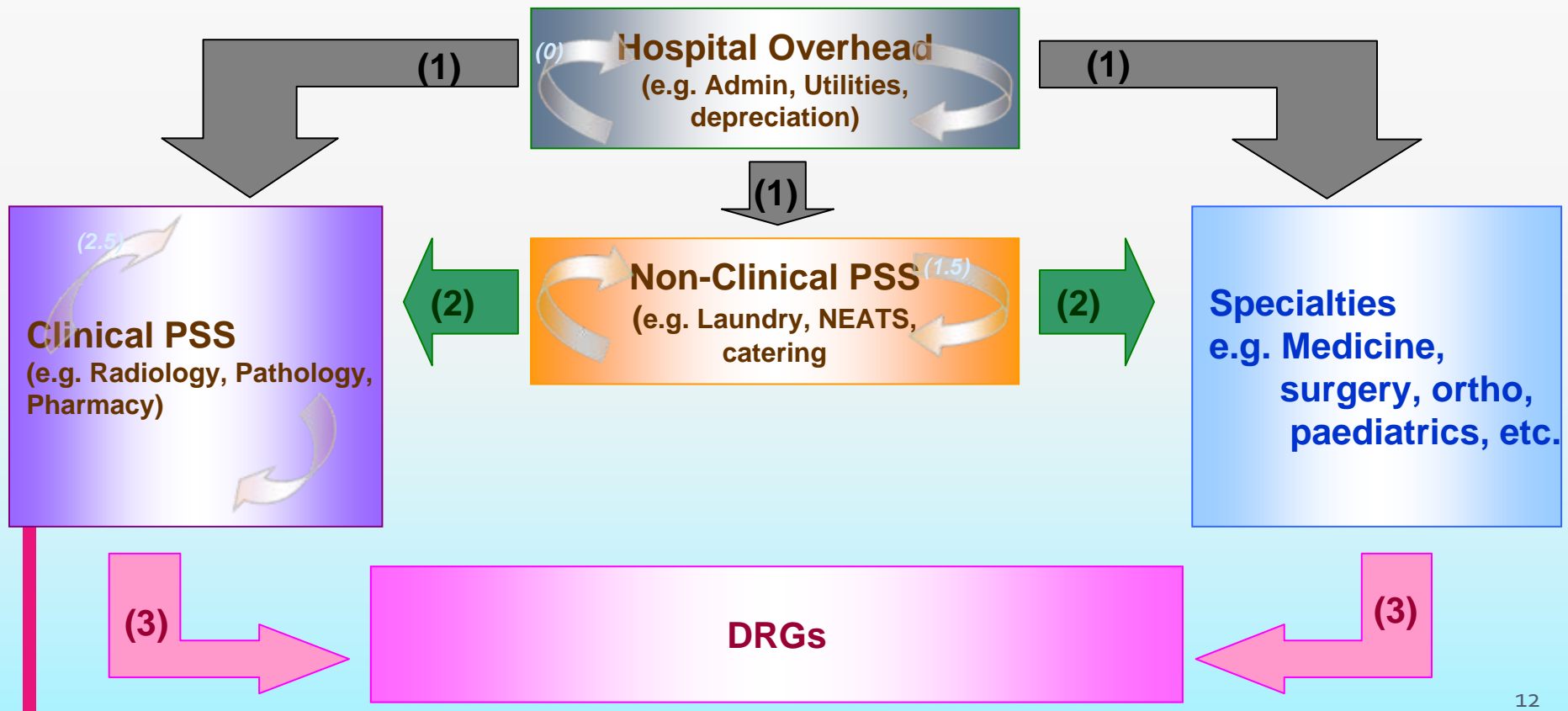
Relative (cost) weights

- Initially based on length of stay and per diem cost by specialties
 - Developed top-down cost allocation model for theatre & anaesthesia, diagnostics and pharmacy
 - HA Clinical Management Systems & corporate data warehouse
- 

Process of DRG Costing Allocation

3. Main Levels of Allocation:

- 1) Overhead costs (*after cross-apportionment within Overhead*) are first allocated to specialties and PSS (Clinical and Non-clinical)
- 2) Non-clinical PSS + Allocated Overheads (*after cross-apportionment within NPSS*) are then allocated to specialties and Clinical PSS
- 3) Clinical PSS + Allocated Overheads/NPSS (*after cross-apportionment within CPSS*) and Specialties + Allocated Overheads/NPSS are allocated to DRGs



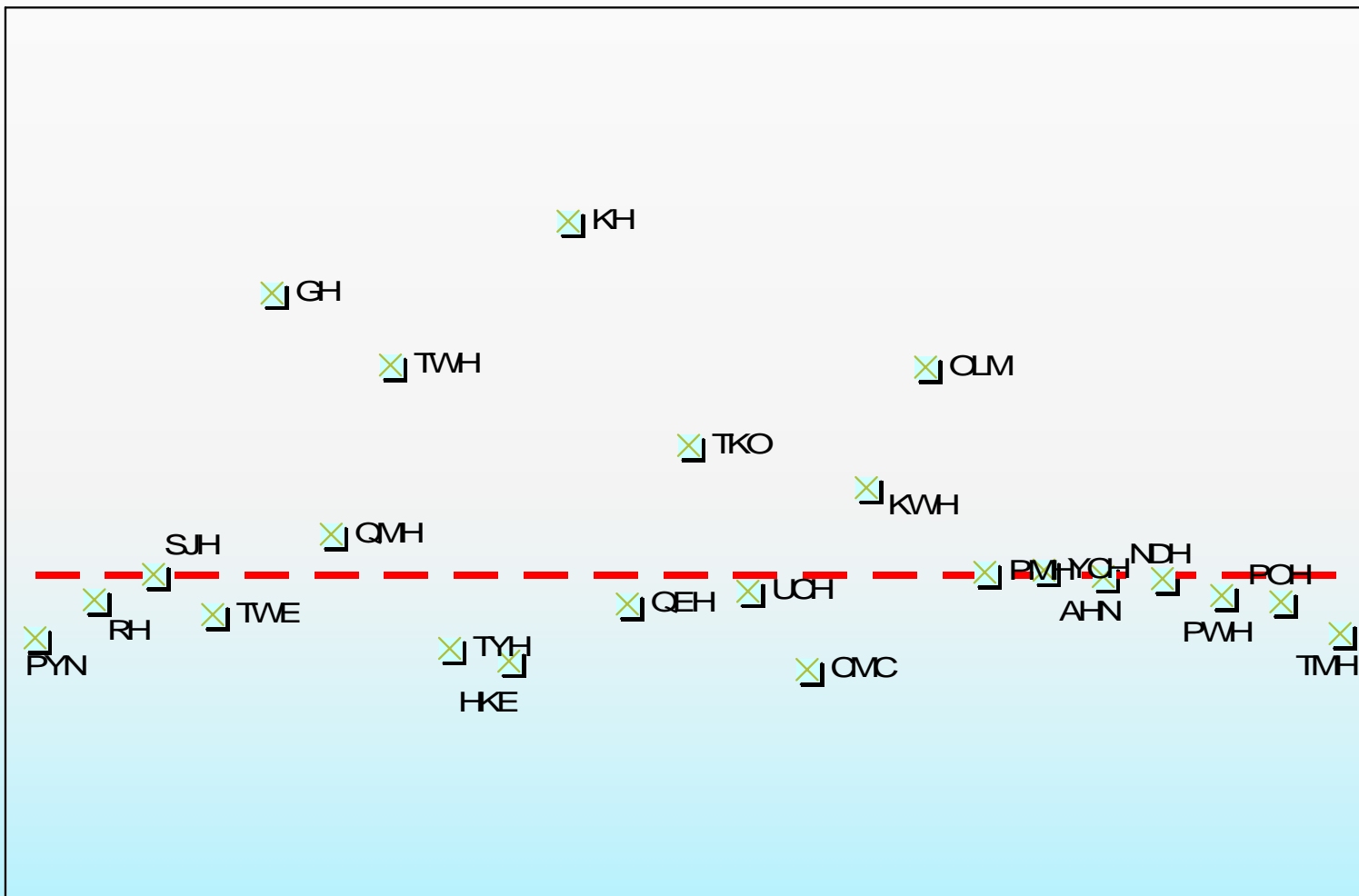
Relative (cost) weights

Description	Direct Specialty Costs	Cardiac Catheterization Lab	Pharmacy	Pathology	Radiology	Avg Cost	Cost Weight v2.0	ALOS
	\$ Cost per episode					\$	Index	Days
IP Cardiac Catheterization	*	9,248	801	969	3,150	24,993	1.81	3.99
IM Acute Myocardial Infraction	*	17	1,625	2,230	663	25,545	1.85	6.19

2008/09 Count


MDC	Major Diagnostic Class (MDC) Description	# of Episodes
01	Nervous System	42647
02	Eye	28465
03	Ear, Nose, Mouth & Throat	36870
04	Respiratory System	95305
05	Circulatory System	75466
06	Digestive System	118071
07	Hepatobiliary System & Pancreas	25026
08	Musculoskeletal System & Connective Tissue	57973
09	Skin, Subcutaneous Tissue & Breast	37674
10	Endocrine, Nutritional & Metabolic Systems	22730
11	Urinary Tract	146128
12	Male Reproductive System	8249
13	Female Reproductive System	32170
14	Childbirth	43657
15	Newborns & Other Neonates	54262
16	Blood, Blood Forming Organs, Immunological System	21160
17	Myeloproliferative System & Poorly Differentiated Neoplasms	33571
18	Infectious & Parasitic Diseases of Systemic or Unspecified Sites	15965
19	Mental Diseases & Disorders	10616
20	Alcohol / Drug Abuse & Dependence	973
21	Injuries, Poisonings & Toxic Effects of Drugs	5272
22	Factors Influencing Health Status & Other Contacts with Health Services	51784
23	Medical Ambulatory Visits	210692
99	Ungroupable	23953
Total		1198679

Casemix adjusted cost per episode of inpatient care by hospitals





Implementation of P4P

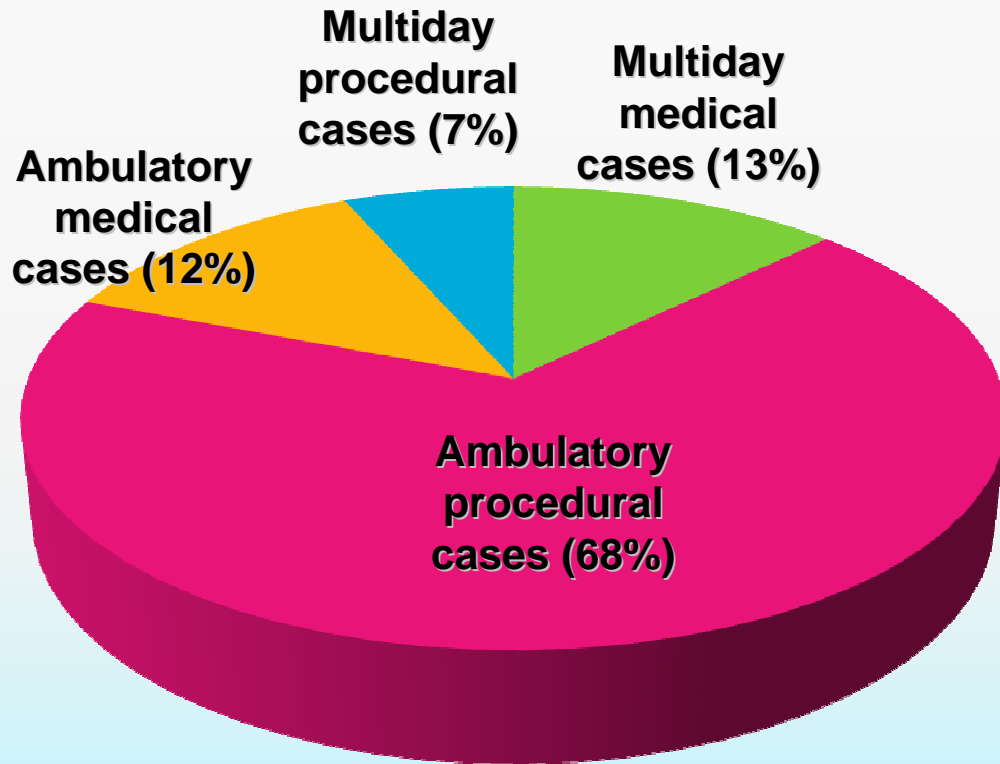
- Extra funding for hospitals targeted to treat additional no. of patients
 - High cost clusters requested to bring down production cost
 - Baseline budget cut limit to 10% of difference (<0.6% of total cluster budget)
 - What did the data show? Has productivity improved?
 - what did the clinicians/ managers say?
 - What are the outstanding issues?
- 

Has the productivity improved?

	Increase	% change	Last year
No. of patients	28,772	4.7%	2.7%
No. of acute inpatient episodes	90,194	7.5%	4.5%
No. of weighted episodes*	234,639	19.6%	4.5%
Average length of stay	-0.25 days	-6.7%	-0.3%

**Weighted episodes (WE) = No. of episodes per DRG X cost weight for that DRG*

Increases in acute inpatient cases

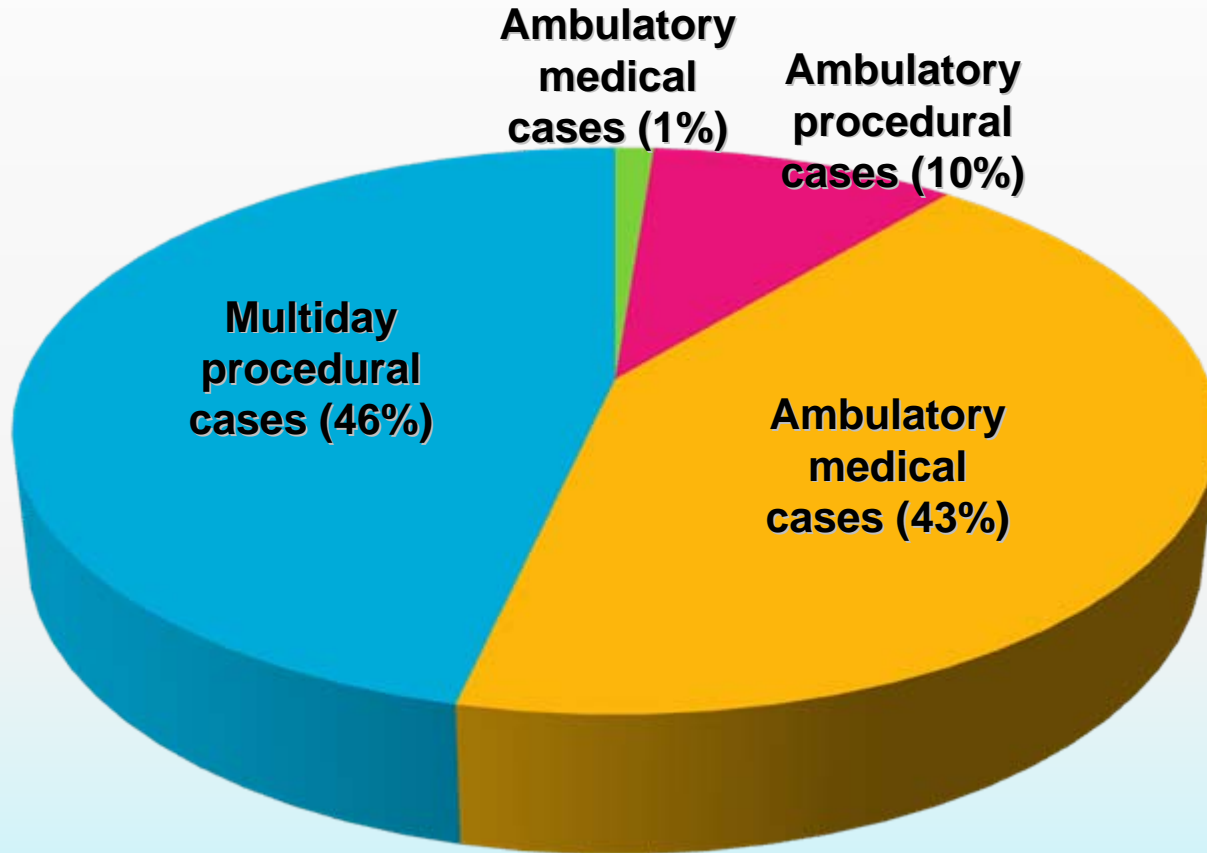


Increase over last year	
Ambulatory medical	5.7%
Ambulatory procedural	211%
Multiday medical	2.4%
Multiday procedure	6.5%

Increases in acute inpatient cases

DRG Families	Description	Increase in No. of cases	% growth
17xxx	AP CHEMOTHERAPY	17,004	63%
23xxx	AM RFV ANTEPARTUM / OTHER COMPLEX ACUTE / OTHER NONCOMPLEX CHRONIC CONDITION	12,740	12%
11315	AP DIALYSIS	10,249	13%
03413	IM EPIGLOTTITIS, OTITIS MEDIA, UPPER RESPIRATORY TRACT INFECTION & LARYNGOTRACHEITIS	4,883	44%
22323	AP OTHER ULTRASOUND PROCEDURES	4,451	34%
22318	AP COMPUTED HEAD TOMOGRAPHY	4,332	88%
16310	AP TRANSFUSION & THERAPEUTIC BONE MARROW PROCEDURES	3,566	32%
02236	AP CATARACT PROCEDURES	3,064	23%
15917	AM NEONATE, BIRTHWT >2499 GRAMS	2,660	27%
06313	AP COLONOSCOPY	2,560	13%

Increase in acute inpatient weighted episodes



Description	No. of weighted episodes	% change	Description	No. of weighted episodes	% change
IM EPIGLOTTITIS, OTITIS MEDIA, UPPER RESPIRATORY TRACT INFECTION & LARYNGOTRACHEITIS	5,490	67%	IP VENTRICULAR SHUNT PROCEDURES	-1,148	-33%
IP LONG TERM MECHANICAL VENTILATION WITH TRACHEOSTOMY	20,012	414%	IM FEVER	-1,001	-14%
IP LONG TERM MECHANICAL VENTILATION WITHOUT TRACHEOSTOMY	25,199	396%	IP NEONATE, BIRTHWT <1000 GRAMS WITHOUT MAJOR PROCEDURE w/CC	-939	-22%
IP NON-COMPLEX RESPIRATORY SYSTEM PROCEDURES	12,729	70%	IM OTHER GASTROENTERITIS & ABDOMINAL PAIN	-938	-5%
IM RESPIRATORY FAILURE	5,826	220%	IM NON-SPECIFIC CVA & PRE-CEREBRAL OCCLUSION WITHOUT INFARCT	-790	-21%
IM RESPIRATORY INFECTIONS & INFLAMMATIONS	7,241	54%	IP OTHER EAR, NOSE, MOUTH & THROAT PROCEDURES	-777	-5%
IM SIMPLE PNEUMONIA & WHOOPING COUGH	9,576	25%	IM VAGINAL DELIVERY	-677	-3%
IM CHRONIC OBSTRUCTIVE PULMONARY DISEASE	3,066	13%	AP LAPAROSCOPIC GYNECOLOGIC PROCEDURES	-629	-42%
IP OTHER CIRCULATORY SYSTEM PROCEDURES	4,828	44%	IP NEONATE, BIRTHWT >2499 GRAMS WITH MAJOR PROCEDURE	-575	-15%
IP COMPLEX INTESTINAL PROCEDURES	4,824	12%	IP CARDIAC PACEMAKER & DEFIBRILLATOR DEVICE REPLACEMENT	-574	-18%
IM DIGESTIVE MALIGNANCY	2,999	18%			
IP PANCREAS & LIVER PROCEDURES	4,386	40%			
IM DIABETES AND NUTRITIONAL & MISC METABOLIC DISORDERS	3,947	35%			
IM ACUTE LEUKEMIA	3,426	52%			
AP CHEMOTHERAPY	6,710	4%			
IM SEPTICEMIA	3,585	43%			

Clinical documentation


	Medical DRG		Procedural DRG	
	08/09	09/10	08/09	09/10
Without CC*	71.4%	58.2%	77.4%	66.9%
With CC	22.8%	30.5%	15.2%	21.1%
Major CC	2.5%	11.4%	7.4%	11.9%

	08/09	09/10
Ungroupable cases	23953	13188

**CC means Co-morbidity & Complications*




After one year

- Like other places..
 - Changes in reporting diagnosis and procedure
 - Significant changes in re-classification of DRGs
 - Significant increase in short stay episodes
 - Increase in number of patients through the system
 - ↓length of stay - Improving efficiency?
- 



Issues

- **Is the growth appropriate?**
 - **Clinicians said,**
 - “don’t know what to code,....., just code everything...”
 - “cost weight not right, no incentive to do same day surgery”
 - “we are teaching hospitals, we take complex referrals..”
 - **Managers said,**
 - “we are special, because...”
 - **CE said,**
 - “how about quality?”
- 

Quality Incentive Pilot Programme

- A set of quality performance indicators
- A mechanism to measure improvement or achievement against targets
- A pool of fund earmarked to reward performance in quality for 2010/11 fiscal year

-

Patient safety


Appropriateness of care



Strategic Priority Areas	Quality Performance Indicators	Performance Target
Access	Waiting time SOPD - routine category 1. Medicine 2. Surgery 3. Psychiatry 4. Orthopaedics	new case booking for routine cases 75th percentile at 52 weeks
	Cancer treatment waiting time 5. Breast cancer 6. Colorectal cancer	90% of patients < 55 days from diagnosis to first definitive treatment
Patient Safety	7. MRSA bacteraemia for acute episodes	< 0.1258 MRSA bacteremia in acute beds per 1,000 acute patient days
	8. Casemix-adjusted unplanned readmission rate	HA's best performance
Disease specific management/ integrated care	9. Fracture hip surgery (pre-op LOS)	70% of fracture hip surgery with pre-op LOS ≤ 2 days
	10. DM – HbA1c control in each cluster (all DM patients i.e. from SOPC, FMSC & GOPC)	35% of DM patients treated in GOPD and SOPD with HbA1c < 7%
	11. Hypertension - BP control for GOPC patients	65% with BP < 140/90 mmHg
Appropriateness of care	12. Reduce avoidable hospitalization	To be determined




Casemix in Hospital Authority

- Jump-started development and implementation timeframe, but still a long way to go....
 - Solid Casemix infrastructures needed to catch up
 - Benchmarking and performance reporting
 - Clinical documentation standard
 - Clinical coding audit
 - Costing standard
 - Data definitions and dictionary
 - Casemix personnel knowledge and expertise
 - Information infrastructure
- 



Casemix in Hospital Authority

- **Technical refinement**
 - Linked episodes
 - Outlier policies
 - Teaching hospitals & peer grouping
 - **Casemix systems for other services**
 - Outpatient clinics
 - Rehabilitation
 - ? Mental health
- 



Most important...

**the right incentives for
hospitals to perform**



Components of Quality Incentive Pilot Program

- A set of **Quality Performance Indicators (QPI)** within HA's current KPI framework
 - List of QPIs in the pilot program only reflect HA's top priority areas
 - Not a reflection of total quality performance of clusters
- **Quality Performance Indicator Targets**
- System to **report and measure performance**
- **Reward / incentive mechanism**
- A **quality pool (\$)** earmarked for the program as reward and incentive: HK\$50 million for 2010/11

Principles of Reward and Incentive Mechanism

- **Reward both Achievers** - Do well against the quality benchmark in the current year
- **Improvers** - Improve towards the quality benchmark with respect to one's performance of the previous year
- To cater for intrinsic structural differences among clusters
 - Focus on **self comparison**
 - Not a ranking exercise for quality
- **Incentive paid to the cluster as a whole** towards **fixing system problems** to enhance quality
- **Adjust for clusters' workload share** of service for each QPI
- Aim to benchmark service against international standards
- **Stretch targets** to enhance quality service

Implementation Timeline

- **Communication:** March - April, 2010
 - Forum with HA stakeholders
 - Discussion paper
 - Website materials
- **Program launched in 2010 / 11 financial year**
 - Take calendar year performance data for calculation
 - Payment in 2 installments
 - Half of the reward will be given to cluster at beginning of financial year
 - Cluster Management Meeting (CMM) QPI

What does the P4P Quality Incentive Program mean to me?

- Good quality performance recognized and rewarded
- Focus on self-improvement through team work and competition
- Incentive for system enhancement to facilitate delivery of quality professional service
- Patient-centred

Strategic Priority Areas for Quality Improvement



THANK YOU

... and safety continuously
... scope of quality performance within the
... framework

Objectives of P Quality Incentive Program

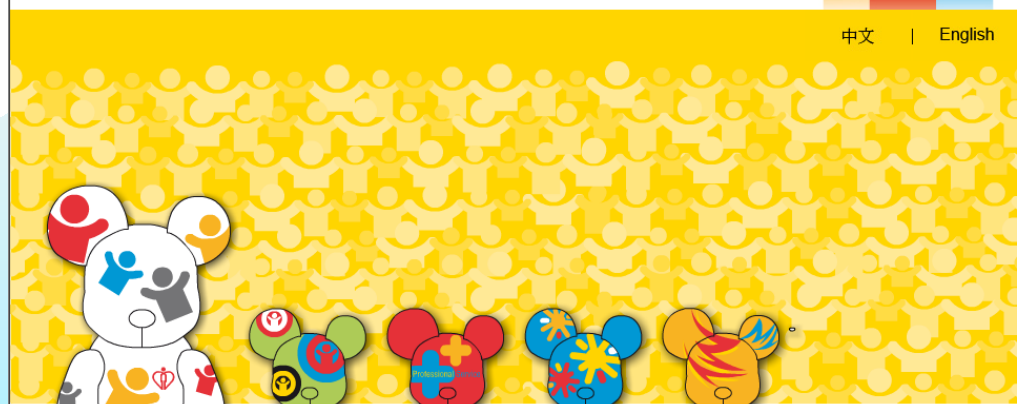
- 1 Provide incentive / recognition for quality performance
- 2 Provide incentive to reduce unacceptably long waiting time for healthcare service
- 3 Ensure a balanced focus on quality and quantity in terms of service delivery under casemix-based funding

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Helping People Stay Healthy
保健安康

醫管局服務新文化

HA New Service Culture

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PILOT PROGRAM 2010/11

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